EXECUTIVE SUMMARY

The stated purpose of this study is to broadly investigate opportunities to enhance highway corridor access and performance principally between the West Kootenay Region of British Columbia and the Tri-County Region of Washington State. The intent is to deliver support for enhanced cross-border trade and tourism, improved Regional industrial productivity and competitiveness, and improved highway safety.

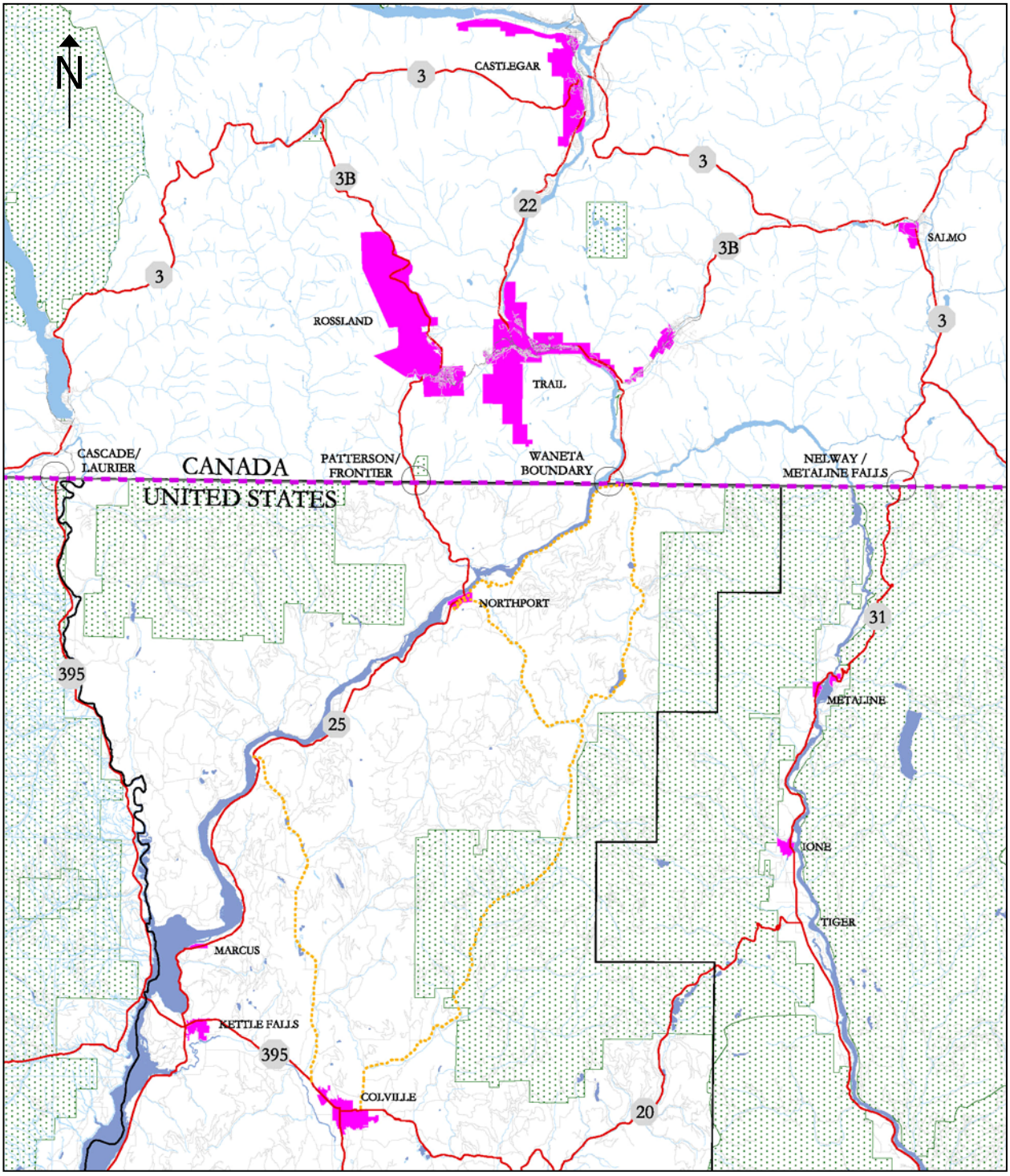
More specific and relevant to the evaluation of options and the decision making process, the objectives of this exercise are to:

- Enhance travel time between the Trail/Castlegar Economic Development Region and the Colville/US 395 area
- Reduce vehicle operating costs between the Trail/Castlegar Economic Development Region and the Colville/US 395 area

Improvement options that do not work towards satisfying these three basic criteria will not meet the objectives of this exercise. The overall study area is captured in **Figure ES-1**.

Generally, the study area exhibits relatively slow economic and population growth and traffic demand on the international highway network is relatively light by comparison to other areas in the Province and State. By contrast, however, the economic dependency on the highway network is significant given the largely resource and tourism based economies and limited availability and use of alternate travel modes.

Figure ES-1: Study Area



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Based on a review of previous documents and studies, in addition to consultation with the project's stakeholders, a list of the major highway transportation issues to be considered in this exercise was identified. These include:

- Conflicting Highway Uses
  - Adverse community impacts from trucks such as: noise, air quality, slow moving trucks in downtown areas (Rossland, Warfield, Trail, Northport)
  - Safety concerns due to vehicle speeds, steep grades and the potential for trucks to lose control through residential/downtown areas

- Restricted Economic Growth
  - High vehicle operation and travel time costs on existing routes between the West Kootenay Region and the Tri-County Region negatively impact the flow of cross-border trade.
    - Cost of increased travel time
    - Cost of increased fuel usage
    - Cost of increased "wear and tear" due to mountainous terrain (brakes, tires, transmissions)
    - Lost time due to adverse weather conditions (road closures, "chain-up" requirements)
    - Reduced efficiency of freight transportation due to weight or vehicle size restrictions

- Cross-Border Tourism / Recreation Opportunities
  - Limited access between Northeast Washington and the West Kootenays restricts the potential of the tourism / recreation industries, such as:
    - Access to Red Mountain Ski Resort (Rossland, BC) for US residents
    - Access to Spokane Region (Spokane International Airport) for West Kootenay residents

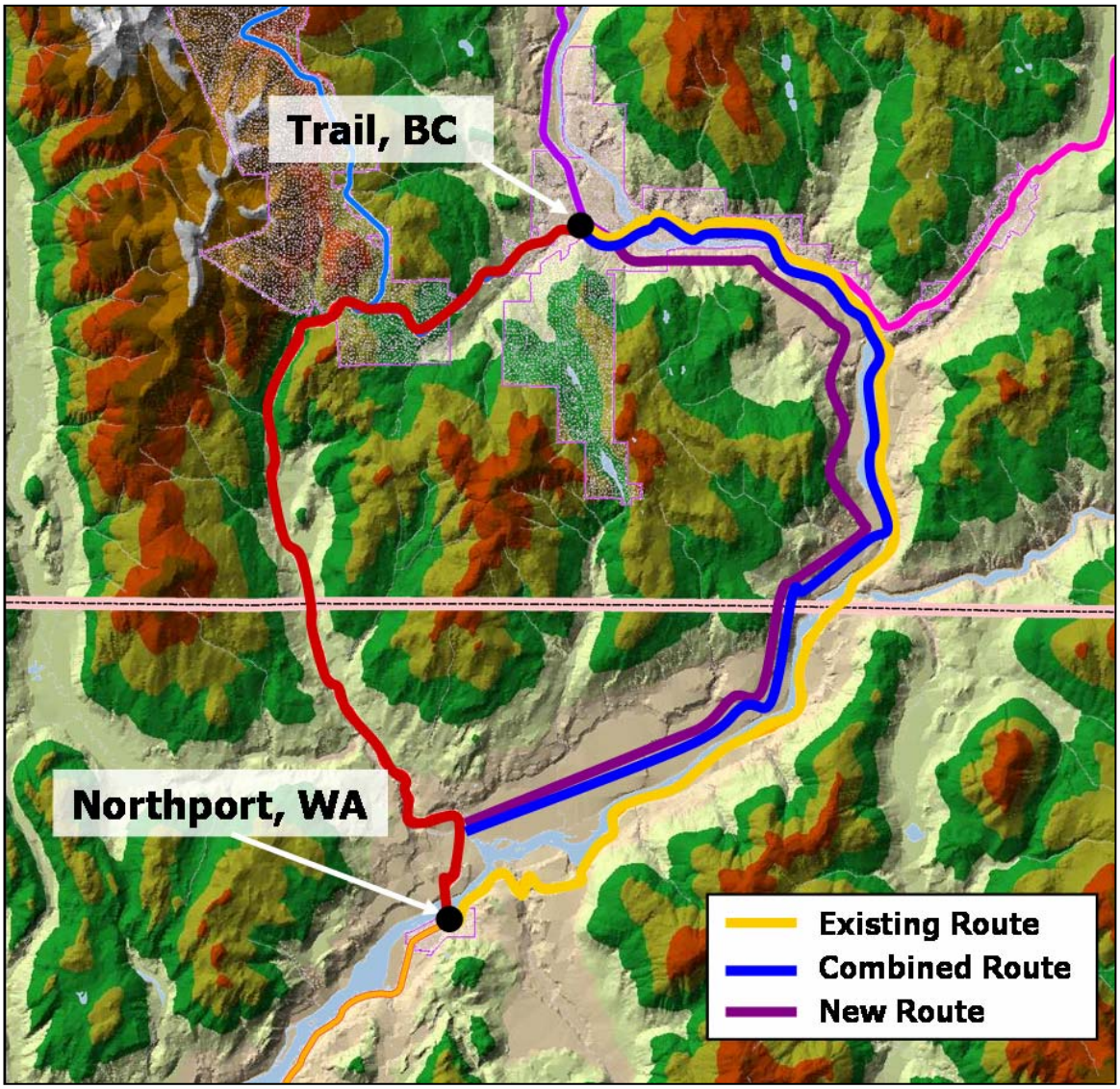
For the purpose of highway improvement comparison and evaluation, the study area is divided into two sub-areas. The northern study sub-area is defined as the segment of the corridor linking Trail, BC to Northport, WA, and is illustrated in **Figure ES-2** complete with topographical information. Three improvement options have been developed in this sub-area:

(i) improvements to the **existing route** on Hwy 22A and the Northport-Boundary Road,

(ii) a **new route** on the west side of the Columbia River, and

(iii) a **combined route** using the existing Hwy 22A, crossing the Columbia River and a new route on the west side into Northport.

Figure ES-2: Northern Sub-Area



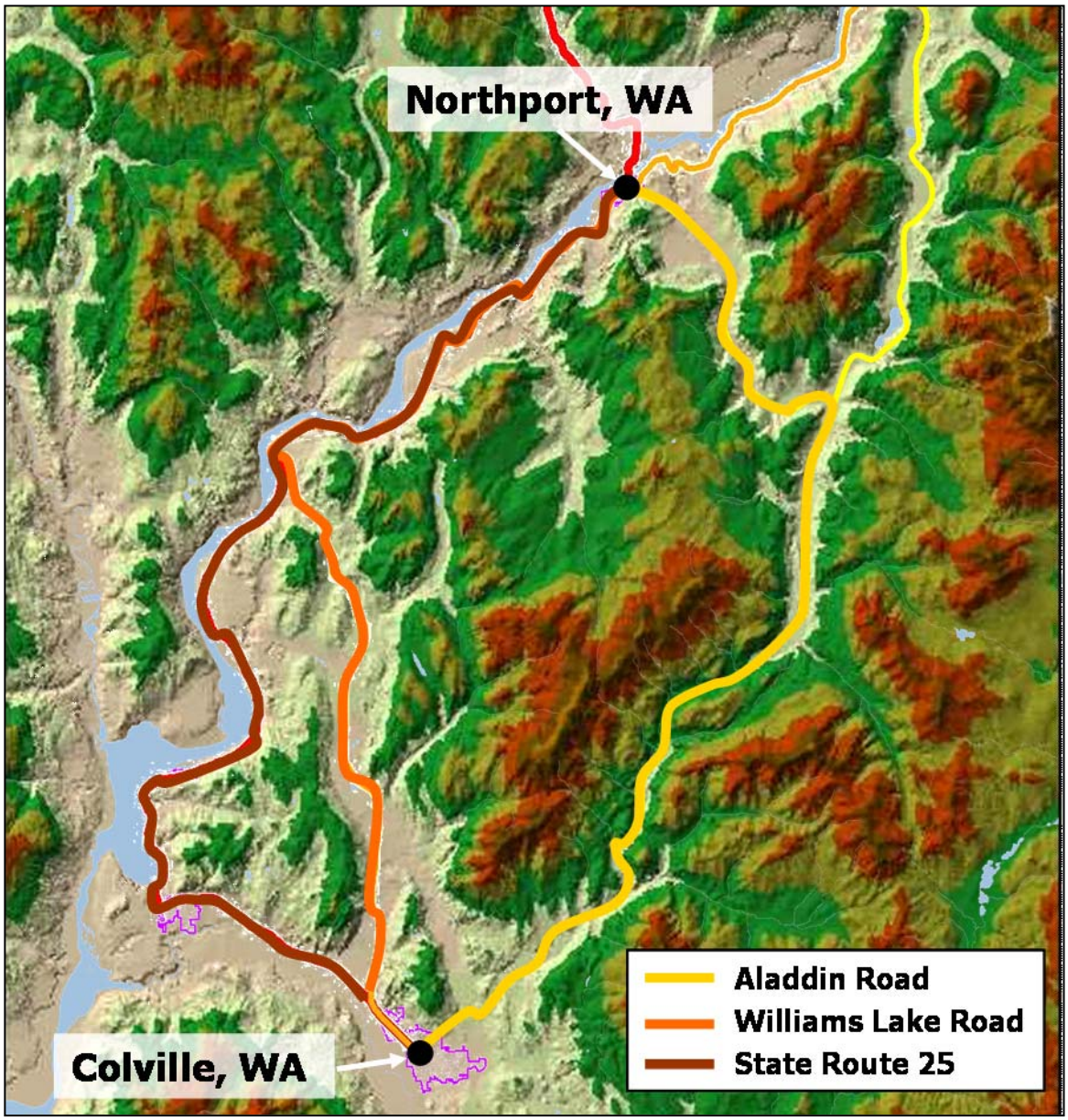
The southern study sub-area is defined as the segment of the corridor linking Northport, WA to US 395 at Colville, WA, and is illustrated in **Figure ES-3** complete with topographical information. Similarly, three improvement options have been developed in this sub-area:

(i) improvements to the existing **State Route 25**,

(ii) improvements to the existing State Route 25 and the **Williams Lake Road** corridor, and

(iii) the **Aladdin Road** corridor.

Figure ES-3: Southern Sub-Area



In order to evaluate and compare the various options, a multiple account evaluation (MAE) was developed and undertaken. In accordance with standard practices for transportation studies in both the province of British Columbia and the State of Washington four separate accounts were considered: a financial account, customer service account, socio-community account, and an environmental account. The monetized results of the MAE exercise are summarized in **Tables ES-1 and ES-2** in both National currencies where appropriate.

Table ES-1: Multiple Account Evaluation Summary

	Northern Section					
	Existing Route *Hwy 22A & SR25*		***New Route*** *West Side of Columbia River*		***Combined Route*** *Hwy 22A & West Side of Columbia River*	
	CAD	USD	CAD	USD	CAD	USD
Benefit Estimate	$16.6 M	$10.1 M	$4.8 M	$2.8 M	$14.0 M	$7.6 M
Cost Estimate	$38.1 M	$31.2 M	$39.5 M	$32.4 M	$39.5 M	$32.4 M
B/C Ratio	0.44	0.32	0.12	0.09	0.35	0.24
NPV	($21.5 M)	($21.1 M)	($34.7 M)	($29.6 M)	($25.5 M)	($24.7 M)
Environmental Impacts	○ Low		● High		◉ Medium	
Socio-Community Impacts	◉ Medium		● High		◉ Medium	

Table ES-2: Multiple Account Evaluation Summary (in USD)

	Southern Section		
	Existing Route *SR25 & US395*	***New Route*** *SR25 & Williams Lake Road*	***Combined Route*** *Aladdin Road*
Benefit Estimate	$29.0 M	$25.4 M	$36.9 M
Cost Estimate	$34.0 M	$32.4 M	$48.2 M
B/C Ratio	0.85	0.78	0.76
NPV	($5.0 M)	($7.0 M)	($11.3 M)
Environmental Impacts	○ Low	○ Low	● High
Socio-Community Impacts	◉ Medium	◉ Medium	◉ Medium

Given that preferred options cross international boundaries, agencies will need to consider costs and benefits that would be attributed to their respective jurisdictions. These results are reformatted and illustrated in **Table ES-3**.

Table ES-3: Economic Indicators by Jurisdiction

	Northern Section	
	British Columbia (CAD)	*Washington State (USD)*
Benefit Estimate	$18.3 M	($1.8 M)
Cost Estimate	$8.9 M	$24.0 M
B/C Ratio	2.06	-0.07
NPV	$9.4 M	($25.7 M)

As most of the cost of the preferred option is geographically located in Washington State, the economic performance indices are challenging on the US side of the border.

The results of this technical evaluation generally support the conclusion that the existing Hwy 22A route from Trail, BC to the US Border, the Northport-Boundary Road from the Canadian Border to Northport, WA, and State Route 25 from Northport, WA to US 395 offers the most logical route choice. While this conclusion is derived from a number of key technical considerations, it is fundamentally based on attempting to balance the public benefits associated with this investment with the public costs associated with its implementation. The selected corridor(s) offers reduced travel times, vehicle operating costs and enhanced safety performance, and most closely approximates the benefits with the costs. This approach to route selection and justification is standard practice for both the BC Ministry of Transportation and the Washington State Department of Transportation.

The results are, however, also indicative of challenging project justification circumstances (again from a technical perspective), as the measured public benefits do not approach the anticipated cost of implementation. These conclusions are consistent with expectation, given the divergent situation in this area related to the difficult (and thus costly) topographical conditions being traversed and the relatively low traffic volumes under consideration. These conclusions have been proven resilient to a series of sensitivity tests on the cost estimates, traffic growth rate, discount rate and vehicle operating costs.